

## **REMARKS**

### **Status of claims**

Claims 1-5, 8-13, 15, 16, 18, 20-25, 27-30, 35, 39-43, 48, 100, 106 and 164-168 are pending in the present application. Reconsideration and withdrawal of the present rejections in view of the arguments presented herein are respectfully requested.

### **Rejections Under 35 U.S.C. §103(a)**

#### ***Mian et al. in view of Kellogg et al.***

Claims 1-4, 8, 9, 18, 20-25, 29, 30 and 48 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mian et al. (USP 6,319,469) in view of Kellogg et al. (USP 6,143,248). The Office Action contends that it would have been obvious to combine the tapered valve of Kellogg with the system of Mian. Applicants respectfully traverse the rejection.

Establishing *prima facie* obviousness requires a showing that each claim element is taught or suggested by the prior art. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Specifically, establishing *prima facie* obviousness requires a showing that some combination of objective teachings in the art and/or knowledge available to one of skill in the art would have lead that individual to arrive at the claimed invention. *See In re Fine*, 5 USPQ2d 1596,1598 (Fed. Cir. 1988). Moreover, establishing *prima facie* obviousness requires not only a showing that such a combination of prior art teachings is possible, but also that the teachings would have 1) motivated the skilled artisan to make the combination to arrive at the claimed invention, and 2) suggested to the skilled artisan a reasonable likelihood of success in making

and using the claimed invention. *See In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988). Absent a showing of such motivation and suggestion, *prima facie* obviousness is not established. *See Fine*, 5 USPQ2d at 1598.

The microchannel networks disclosed in Mian do not include TAPERED fluid channels, EACH of which is in fluid communication with a PLURALITY of reaction cells, as presently claimed. The microchannel networks described in Mian lack two features of the claimed devices: (1) a TAPERED channel; that is (2) in fluid communication with a PLURALITY of reaction cells. Thus, Mian is a defective reference upon which to base a *prima facie* case of obviousness.

Kellogg does not cure the defects in the teachings of Mian. Even assuming for the sake of argument that a skilled artisan would have been motivated to build a Mian network including tapered valves as disclosed by Kellogg, the use of such tapered valves would affect the fluid connection of a channel with only a SINGLE reaction cell.

Thus, a *prima facie* case of obviousness based upon this combination of references cannot be maintained. In view of the comments presented above, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §103(a).

***Mian et al. and Kellogg et al. and further in view of Zanzucchi et al.***

Claims 15, 100, 106 and 164-168 were rejected under 35 U.S.C. §103(a) as being unpatentable over Mian et al. (USP 6,319,469) and Kellogg et al. (USP 6,143,248) and further in view of Zanzucchi et al. (USP 5,643,738). As discussed above, Kellogg does not cure the defects in the teaching of Mian. Furthermore, Zanzucchi et al. do not cure these defects since this reference neither discloses nor suggests the claim elements missing from the teachings of

Mian and Kellogg. Thus, a *prima facie case* of obviousness cannot be maintained, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

***Mian et al. and Kellogg et al. and further in view of Demers***

Claims 5 and 10-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over Mian et al. (USP 6,319,469) and Kellogg et al. (USP 6,143,248) and further in view of Demers (USP 5,840,256). As discussed above, Kellogg does not cure the defects in the teaching of Mian. Furthermore, Demers does not cure these defects since this reference neither discloses nor suggests the claim elements missing from the teachings of Mian. Thus, a *prima facie case* of obviousness cannot be maintained, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

***Mian et al. and Kellogg et al. and further in view of Stabile et al.***

Claim 16 was rejected under 35 U.S.C. 103(a) as being unpatentable over Mian et al. (USP 6,319,469) and Kellogg et al. (USP 6,143,248) and further in view of Stabile et al. (USP 5,872,623). As discussed above, Kellogg does not cure the defects in the teaching of Mian since this reference neither discloses nor suggests the claim elements missing from the teachings of Mian. Furthermore, Stabile et al. do not cure these defects since this reference neither discloses nor suggests the claim elements missing from the teachings of Mian. Thus, a *prima facie case* of obviousness cannot be maintained, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

***Mian et al. and Kellogg et al. and further in view of Sheppard et al.***

Claims 27 and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Mian et al. (USP 6,319,469) and Kellogg et al. (USP 6,143,248) and further in view of Sheppard et al. (USP 6,143,247). As discussed above, Kellogg does not cure the defects in the teaching of Mian since this reference neither discloses nor suggests the claim elements missing from the teachings of Mian. Furthermore, Sheppard et al. do not cure these defects since this reference neither discloses nor suggests the claim elements missing from the teachings of Mian. Thus, a *prima facie* case of obviousness cannot be maintained, and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

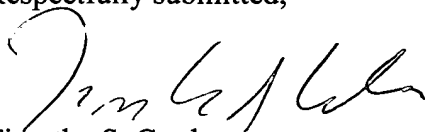
In summary, none of these references, either alone or in combination, teach or suggest the use of tapered fluid channels in fluid communication with a plurality of reaction cells as recited in the amended claims. Because the independent claims are novel and non-obvious, the dependent claims are necessarily novel and non-obvious.

### **Conclusion**

In view of the foregoing amendments and remarks, Applicants respectfully submit that the present application and all claims are in condition for immediate allowance and early notice to such effect is earnestly solicited. If, in the opinion of the Examiner, a phone call may help expedite prosecution of this application, the Examiner is invited to contact the undersigned representative at (512) 542-8446.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,



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